

Features

- High Density Cell Desihn for Low $R_{DS(on)}$
- Fully Characterized Avalanche Voltage and Current
- Excellent Package for Good Heat Dissipation
- Special Process Technology for High ESD Capability
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

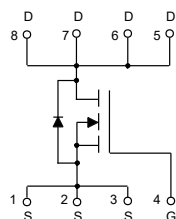
Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 62.5°C/W Junction to Ambient^(Note 1)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltlage	V_{GS}	±20	V
Continuous Drain Current	I_D	100	A
Pulsed Drain Current	I_{DM}	400	A
Total Power Dissipation ^(Note 1)	P_D	2	W

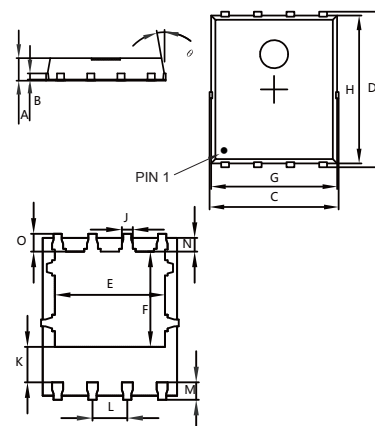
Note: 1. Mounted on a Glass Epoxy Board of 25.4mm x 25.4mm x 0.8mm.

Internal Structure



N-CHANNEL MOSFET

DFN5060-8



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.035	0.039	0.900	1.000	
B	0.010		0.254		TYP.
C	0.195	0.201	4.944	5.096	
D	0.235	0.241	5.974	6.126	
E	0.154	0.162	3.910	4.110	
F	0.133	0.141	3.375	3.575	
G	0.190	0.196	4.824	4.976	
H	0.223	0.229	5.674	5.826	
K	0.047	0.055	1.190	1.390	
J	0.014	0.018	0.350	0.450	
L	0.050		1.270		TYP.
M	0.022	0.028	0.559	0.711	
N	0.017	0.023	0.424	0.576	
O	0.023	0.029	0.574	0.726	
θ	10°	12°	10°	12°	

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	30			V
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V			1	μA
Gate-Threshold Voltage ^(Note 2)	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.2	1.7	2.5	V
Drain-Source On-Resistance ^(Note 2)	R _{DS(on)}	V _{GS} =10V, I _D =20A		1.9	2.5	mΩ
		V _{GS} =4.5V, I _D =10A		2.9	3.5	
Forward Tranconductance ^(Note 2)	g _{FS}	V _{DS} =10V, I _D =20A	32			S
Dynamic Characteristics ^(Note 3)						
Input Capacitance	C _{iss}	V _{DS} =15V,V _{GS} =0V,f=1MHz		5000		pF
Output Capacitance	C _{oss}			1135		
Reverse Transfer Capacitance	C _{rss}			563		
Total Gate Charge	Q _g	V _{DS} =15V,V _{GS} =10V,I _D =20A		38		nC
Gate-Source Charge	Q _{gs}			9		
Gate-Drain Charge	Q _{gd}			13		
Turn-On Delay Time	t _{d(on)}	V _{DD} =15V, R _L =15Ω V _{GS} =10V,R _G =2.5Ω		26		ns
Turn-On Rise Time	t _r			24		
Turn-Off Delay Time	t _{d(off)}			91		
Turn-Off Fall Time	t _f			39		
Drain-Source Body Diode Characteristics						
Continuous Body Diode Current	I _S				100	A
Pulsed Diode Forward Current	I _{SM}				400	
Body Diode Voltage ^(Note 2)	V _{SD}	I _S =10A, V _{GS} =0V			1.2	V

Note 2. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

3. Guaranteed by Design, Not Subject to Production Testing.

Curve Characteristics

Fig. 1 - Output Characteristics

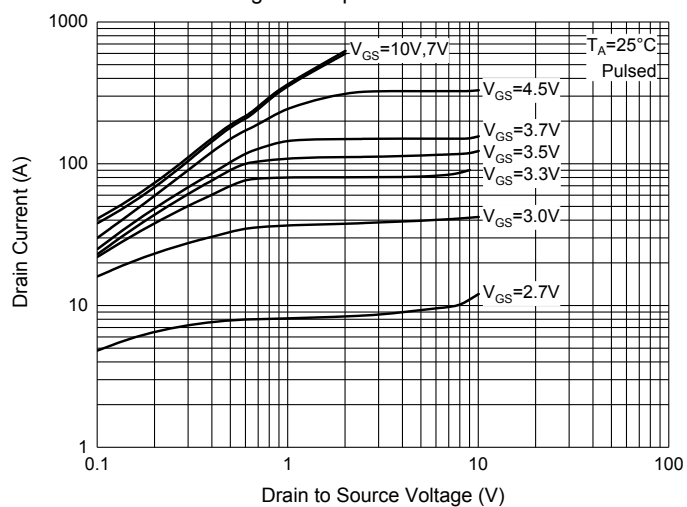


Fig. 2 - Transfer Characteristics

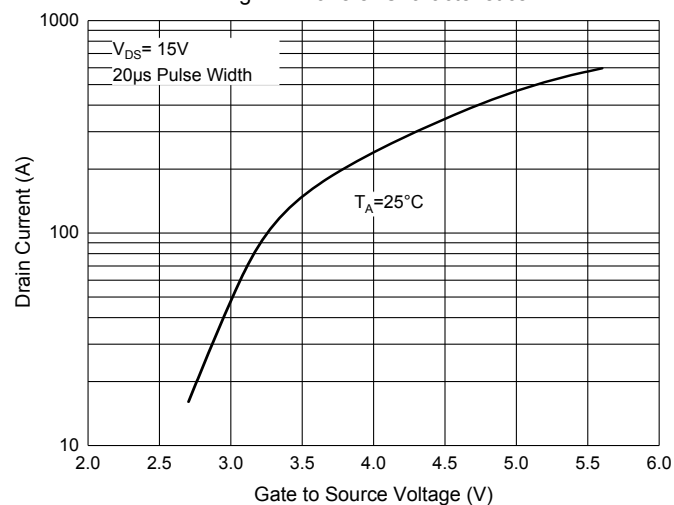


Fig. 3 - $R_{DS(ON)} - I_D$

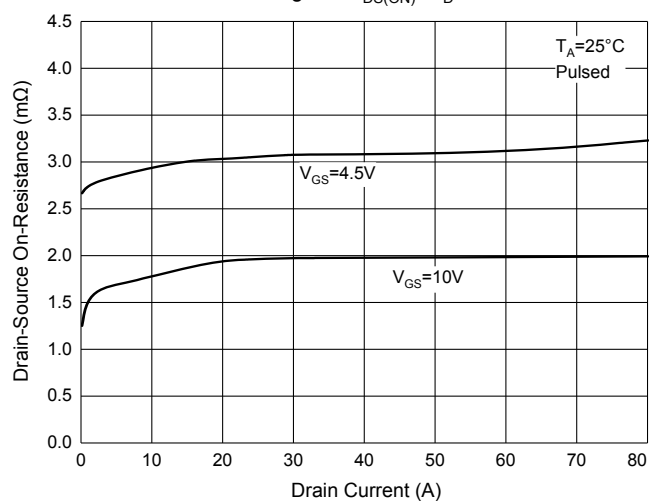


Fig. 4 - $R_{DS(ON)} - V_{GS}$

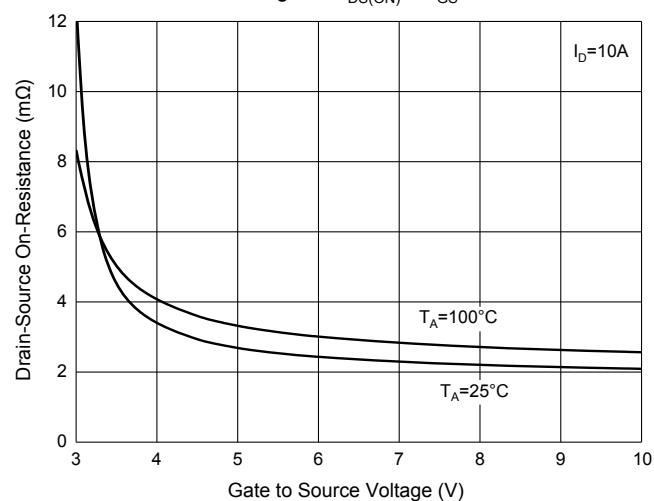


Fig. 5 - $I_S - V_{SD}$

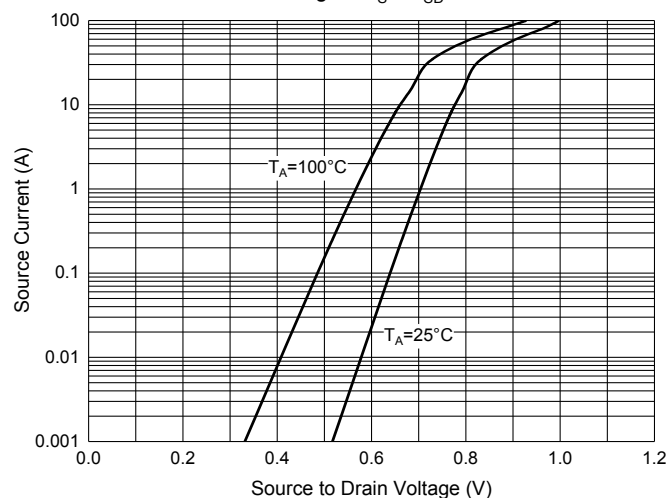
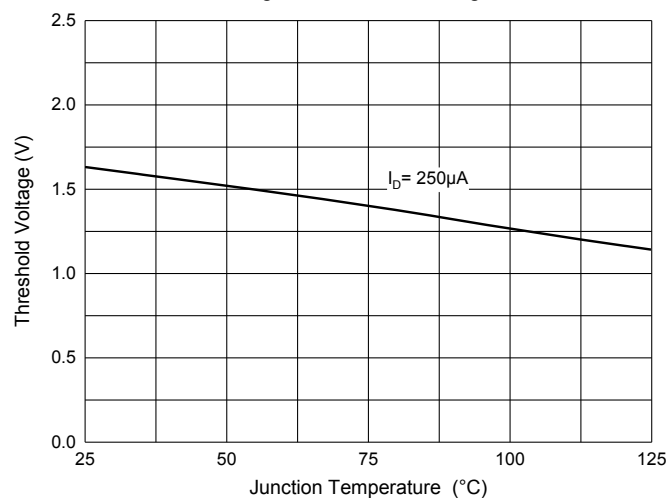


Fig. 6 - Threshold Voltage



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 5Kpcs/Reel

Note : Adding "-HF" Suffix for Halogen Free, eg. Part Number-TP-HF

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